Compensation in Organizations

Current Research and Practice
12 Edition in SIOP Frontiers Series

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Chapter 1: Psychological Research on Determinants of Pay

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Market prices are inherently job-related, although the market may embody social judgments as to the "worth" of some jobs. Employers are, to that extent, "pricetakers." They deal with the market as a given, and do not meaningfully have a "policy" about it. Spaulding v. University of Washington (1984)

It is naive ... to talk of the "competitive wage," the "equilibrium wage," or the "wage that clears the market." Richard A. Lester (1952)

The majority of the chapters in this book speak primarily to the effects of pay on people's attitudes and behaviors. However, information about people's reactions to pay have little practical importance to employers unless employers have discretion in setting pay and developing pay policies. As indicated elsewhere in this volume (see Chapters Five, Six, and Seven), employers not only have such discretion but have been exercising it in increasingly diverse ways over the past decade. The increasing diversity of pay strategies and practices makes the study of pay determination processes an important and potentially exciting venture.

In this chapter, we summarize the extent to which I/O psychologists have investigated issues related to pay determination over the past decade. In particular, we focus on relevant research that has appeared in the top I/O psychology journals-Journal of Applied Psychology, Personnel Psychology, and Organizational Behavior and Human Decision Processes-for the period 1986-1998.

We focus on these journals because of their high quality ratings and because of the association between rankings of journal quality and journal citation rates (see Johnson & Podsakoff, 1994; Salancik, 1986). Because the vast majority of academic research builds in small increments on previously published research (Campbell, Daft, & Hulin, 1982; Sackett & Larson, 1990; Webb, 1968), future research is likely to proceed in much the same fashion as past research unless explicit attempts are made to change research priorities. It is therefore helpful to assess the extent to which the current state of the literature serves as an adequate basis for future research.

The remainder of the chapter is divided into three sections: a review of the literature, an evaluation of that literature, and suggestions for future research.

Psychological Research on Determinants of Pay, 1986-1998

Our review uncovered two basic types of studies aimed at discovering pay determinants and/or pay determination processes. One category consists of experimental studies that directly examine how managers (or students) use various pieces of information in

making compensation decisions. The second category consists of field or laboratory studies that infer pay determinants by correlating actual salary distributions with employee, supervisory, or organizational characteristics. The studies we reviewed are summarized in Table 1.1.

Direct Examination of Pay Determination

Most direct examinations of pay determination have been one-of-a-kind studies with respect to the issues investigated. Studies have varied both in terms of dependent variables (pay level, pay increase, job pay, job evaluation points) and independent variables (such as managerial and employee characteristics). However, there has been less variability in methodology, with most studies employing some variant of policy capturing.

For example, Sherer, Schwab, & Heneman (1987) used policy capturing to examine how eleven hospital administrators combined information about (hypothetical) incumbents' current salaries, recent performance, performance consistency over time, length of service, and existence of an external job offer in making pay raise decisions. Results suggested that in general, recent performance was the largest determinant of pay increase decisions. Beyond that, however, administrators exhibited wide individual differences with respect to the weights placed on the other factors, despite the fact that all subjects came from the same hospital. In addition, administrators' direct reports of how they weighted the various factors were substantially at odds with weights inferred via policy capturing.

Using a resource dependence framework (Bartol & Martin, 1988), Bartol and Martin (1989, 1990) conducted a series of in-basket studies to assess the extent to which managers' pay raise decisions are affected by their dependence on subordinates to attain work objectives. Dependence on the subordinate was manipulated in a number of ways, including dependence on the target employee's functional expertise, implicit employee threats of leaving, and employee connections to the company president. They found some support for the notion that managers give larger increases to subordinates on whom they are dependent, but only under certain conditions (such as lack of pay secrecy or subordinate threat of grievance).

Orr, Sackett, and Mercer (1989) used a policy capturing approach to examine whether or not managers consider nonprescribed job behaviors (such as positive attitudes, self-training, and cooperation) in providing SDy estimates for utility analysis. Seventeen supervisors from a medical supply corporation assigned dollar values to profiles of fifty hypothetical programmers whose performance was experimentally varied along ten prescribed aspects (including creating and running tests, debugging, and adherence to schedules) and three nonprescribed aspects (team cooperation, contribution to morale, and company orientation) of behavior. Based on tests of statistical significance, results suggested that ten of the seventeen managers did consider citizenship behaviors when assessing value. In contrast to Sherer et al. (1987), Orr and colleagues found generally high average correlations ($r = .72$) between directly reported attribute weights and weights inferred via policy capturing, as well as reasonable interrater agreement on weighting for most, though not all, variables.

Giacobbe-Miller, Miller, & Victorov (1998) created a policy capturing bonus allocation task for 120 Russian and 81 American managers. Managers were asked to allocate an $18,000 bonus pool (or 18 million rubles) among eighteen hypothetical employees who were characterized in terms of individual productivity (three levels), relations with coworkers (two levels), and personal financial need (three levels). Their results suggested

that both Russian and U.S. managers placed a greater emphasis on individual productivity than the other two factors. Both sets of managers also placed a substantial emphasis on relations with coworkers, although contrary to expectations, this emphasis was stronger for U.S. than for Russian managers. U.S. managers were particularly generous to workers who displayed both high productivity and positive coworker relations, allocating "exceptional" bonuses to this combination ($2,173, versus $1,246 for highly productive employees with poor coworker relations).

In addition, Russian managers, but not U.S. managers, allocated pay at least in part on the basis of need. Finally, managers of both countries allocated a large proportion of the bonuses uniformly among employees. On average, Russian managers gave all employees at least 69.2 percent of what would be predicted by a perfectly egalitarian distribution (1 million rubles), whereas the average U.S. manager gave all employees at least 50.6 percent.

Singh (1995) asked seventeen male college students at an Indian university to assign pay to a hypothetical target worker, based on information about that employee's inputs relative to the inputs and pay of a comparison employee. Results suggested that subjects used nonlinear functions to assign pay, consistent with notions of fair pay ranges (floor and ceiling effects). However, it should be noted that in addition to the potential problems for external validity caused by the small student sample and the hypothetical task, the study was also extremely simplistic in design (for example, employee inputs were described as "very, very low," "moderate," and "very, very high").

In a second series of experimental investigations, Singh (1997) looked at whether student subjects made different dyadic reward allocations when they were given a goal of "fairness" versus a goal of "team harmony." Again, sample sizes were small (sixteen to thirty-two subjects), and manipulated characteristics of hypothetical "team members" were very simplistic (ranging from "extremely poor" to "excellent" performance and effort). The main goal of these studies was to ascertain the functional forms of the models used by decision makers, rather than to draw substantive conclusions about the factors associated with pay allocations.

Given substantial evidence of the importance of occupational segregation to the gender gap in earnings (see, for example, Blau & Ferber, 1998), Rynes, Weber, and Milkovich (1989) used policy capturing to examine whether male versus female domination of a job category affected the way in which 406 compensation administrators assigned job pay rates. Male- and female-dominated job categories were matched on current pay levels, market survey rates, and job evaluation points but differed in terms of job title and brief job description.

Results suggested that current pay and market survey estimates were the most important factors in setting job pay, although job evaluation points also played a role. In contrast, job gender had no detectable effect on pay assignments. It should be noted, however, that each subject assigned pay only to male-dominated or female-dominated job categories, not both. This design was believed necessary because inclusion of the matched pairs in a single survey might have revealed the purpose of the study. However, it probably made job gender a less salient factor in this study than in situations where both male- and female-dominated jobs are evaluated at the same time.

In a related type of investigation, Mount and Ellis (1987) examined whether the job evaluation ratings of fifty-two university professionals and staff members were affected by gender-identified job titles ("nurse aide" versus "orderly," "YMCA director" versus "YWCA director"), holding the actual job description constant. The authors suggested

that evaluators slightly favored female-dominated job descriptions ($p < .08$), although the variance explained by job gender was extremely low (1 percent).

Finally, based on evidence that employers have considerable latitude in conducting market pay surveys (Rynes & Milkovich, 1986), Viswesvaran and Barrick (1992) used policy capturing to examine the factors compensation specialists use in deciding which firms to include in initial market surveys and which firms to keep or discard after data have been collected. Survey inclusion was assessed as a function of hypothetical organizational descriptions that varied on industry, location, size, union status, and frequency of hiring.

Results suggested that geographical location was the primary factor in deciding which firms to survey (for secretarial positions) and that closeness of the job match was the primary factor in deciding which data to keep or discard. Similar to Sherer et al. (1987), results also suggested considerable variance in the decision policies of individual administrators that could not be explained by statistical artifacts.

Inferences About Pay Determination

Another group of studies drew indirect inferences about the determinants of pay decisions, based on observed correlations with actual pay outcomes. Although most of these correlations were obtained via field surveys, in two cases they were obtained from experimental negotiation exercises.

For example, Dreher and Ash (1990) examined the effects of a variety of individual difference variables, particularly ones presumed to be associated with gender, on postgraduation salaries of B.B.A. and M.B.A. students from two universities. Results showed that salaries were positively related (in order of effect size) to degree level, male gender, years since graduation, extent of mentoring received, and absence of career interruptions.

Brett and Stroh (1997) examined whether there were gender differences in the pay of 605 male and female managers from twenty Fortune 500 firms and also whether there were differential financial returns to changing employers for men versus women. Raw data showed statistically significant gender differences in both salaries ($66,081 for men versus $51,356 for women) and bonuses ($4,283 versus $2,968). The gender difference remained significant, though smaller, following a regression analysis of total cash compensation that controlled for a variety of human capital and industry characteristics. Specifically, the gap declined to $6,060 ($69,248 for men versus $63,168 for women) after adjusting for differences in control variables.

Next, changes in salary levels were compared by gender for those who had changed companies during the preceding two years. Across genders, leaving one's company was associated with an average increment of $3,324 relative to people who stayed ($4,543 after adjusting for differences in control variables). However, returns to external labor market moves were dramatically different for men and women, with men receiving an average raw return of $8,704 and an adjusted (for differences in human capital) return of $8,292. In contrast, women who switched companies suffered a loss of $2,290 (or $671, adjusted for human capital differences) relative to people who stayed.

Lyness and Thompson (1997) compared the career outcomes (including compensation and stock options) of fifty-one female and fifty-six male executives (vice president and above) of a major financial services firm. Like Brett and Stroh (1997), the authors controlled for a wide range of human capital and career history variables. They found no

gender differences in base salary or bonuses, but differences in stock options approached significance in the expected direction (d = -.28). It should be noted, however, that the (necessarily) small sample sizes in this elite sample reduced the likelihood of finding significant effects.

Dreher and Cox (1996) analyzed the salaries of graduates from nine M.B.A. programs (1969-1989) as a function of graduate characteristics, establishment of mentoring relationships, and mentor characteristics. They found that graduates with white male mentors received an average pay advantage of $16,840 over individuals with other types of mentors and that white males were significantly more likely to have white male mentors than African-Americans, Hispanics, and women were.

Gerhart and Rynes (1991) examined whether men and women are equally likely to negotiate starting salary offers and, if so, whether they are equally successful in obtaining financial returns to their negotiations. They controlled for a variety of variables reflecting human capital characteristics (such as college major and previous work experience) and bargaining power (including number of job offers, highest alternative salary offer, and general labor market conditions).

Results suggested that men and women were not (statistically) significantly different in their tendencies to negotiate, although differences were in the expected direction (15.4 percent of women negotiated, versus 22.9 percent of men). Across genders, negotiation was associated with higher starting salaries of 4.1 percent. However, there was a significant Negotiation Gender interaction, with bargaining paying off more for men than for women: men received an average 4.3 percent return ($1,973) to their negotiations, while women received only 2.7 percent ($1,231).

As is the case with all such studies, the field survey methodology did not permit examination of whether of these differential returns were attributable to managerial discrimination, less skilled bargaining performances by women, or some combination of the two factors. Fortunately, a subsequent laboratory study by Stevens, Bavetta, and Gist (1993) has suggested at least a partial answer to this question.

Stevens and colleagues used an experimental bargaining simulation to examine gender differences in and potential mediators of bargaining effectiveness. After initial training in negotiation techniques, men performed better than women (they used more tactics and repeated tactics more often) and were awarded higher salaries by trained confederates. Additional analyses showed that gender differences in bargaining effectiveness were mediated by differences in self-set goals but not by differences in tactical knowledge, self-efficacy, or perceived control.

Following the initial negotiation, subjects received additional training in either goal-setting or self-management techniques. In the goal-setting condition, both male and female subjects significantly increased their salaries relative to initial bargaining outcomes, but significant gender differences still remained in the total amounts negotiated. In the self-management condition, both genders again significantly increased their salaries, but women improved their salaries more than men in both absolute and relative (to initial negotiations) terms.

In a related study, Gist, Stevens, and Bavetta (1991) found that negotiated salaries were significantly correlated with self-efficacy and that the effects of initial self-efficacy carried over to a second negotiation performance seven weeks later. However, there was also evidence that the self-efficacy effect operated primarily through differences in self-set goals. The effects of self-efficacy also interacted with training method, in that there

were no self-efficacy- related differences in negotiated salary for subjects who received self-management training, while subjects with high self-efficacy negotiated larger salaries than other subjects in the goal-setting training condition.

In sum, the Stevens and colleagues research suggests that men and women may in fact bargain differently and may do so in ways that would be expected to make men more effective in obtaining higher pay outcomes. In addition, their research has provided insight into some of the underlying cognitive mechanisms involved (on the part of the employee, at least), as well as the potential effectiveness of various types of training for improving bargaining outcomes. These are important contributions.

At the same time, it is important to recognize that the pay allocators in this study were confederates who had been trained to allocate pay on the basis of specific negotiator behaviors (for example, use of multiple tactics and tactic repetition). The extent to which such behaviors translate into monetary gains in real negotiations or, equally important, whether these behaviors are interpreted and rewarded in the same way regardless of negotiator gender are important but unanswered questions. In short, we do not know how much particular negotiating behaviors should (or do) pay off in terms of real salary negotiations or whether identical tactics are perceived differently when exhibited by men or by women.

In a study that was not motivated primarily by gender concerns, Heneman and Cohen (1988) examined the salary increases of manufacturing employees as a function of both supervisory and employee characteristics. They found that although 24 percent of the variance in salary increases could be explained as a function of employee characteristics (performance rating, age, and position in salary grade), another 11 percent of the variance appeared to be due to supervisory characteristics (particularly the supervisor's own salary increase). Given the sizable effect of supervisory characteristics, the authors suggested that researchers include supervisory characteristics in future investigations of merit pay research.

Markham (1988) used within- and between-subjects analysis to examine correlations between performance ratings and merit pay increases at three levels of analysis: individuals, work groups, and individuals within work groups. Analyses were conducted on seventy- one managers and professionals from a single organization. Results suggested that the correlation between pay and performance at the group level was considerably larger ($r = .45$) than the pay-performance relationship at the more conventional individual level of analysis ($r = .19$) or at the individual-within-groups level ($r = -.03$).

Such a pay pattern would be typical of an organization with a strong team model, where both performance and pay differ considerably across, but not within, groups. Although this model would not be expected to describe most organizations, Markham (1988) used it as an illustration of how analyzing pay-performance relations only at the individual level of analysis may obscure mediation of pay-performance linkages via group membership.

Finally, Collins, Hatcher, and Ross (1993) attempted to infer the bases of managerial decisions to adopt gainsharing pay systems. They surveyed top management teams from fifty-nine organizations that requested preliminary gainsharing consulting and then waited to see which firms eventually implemented a program. Their objective was to determine whether firms are more likely to adopt gainsharing as a "lead" tactic (to lead changes in organizational culture and strategy) or as a "lag" tactic (to complement

existing culture and strategy; see Lawler, 1986).

Results suggested that gainsharing programs were more likely to be implemented in settings where gainsharing principles complemented the existing climate and culture and hence more likely to complement rather than to lead organizational transformation (see Lawler, 1986). However, the results were somewhat ambiguous and partially moderated by union status.

Evaluation Findings and Contributions

One conclusion that can be drawn on the basis of both direct and indirect studies of pay determination is that factors other than individual productivity generally enter into compensation decisions. For example, Heneman and Cohen (1988) found that supervisors' own salary increases were important determinants of the raises they gave others, whereas Markham's results (1988) suggest that the performance of one's work group as a whole may also influence one's pay. Similarly, Bartol and Martin (1989, 1990) suggest that under certain conditions, pay can be influenced by an individual's political connections, perceived likelihood of leaving, and organizational changes in business strategy.

In addition, policy capturing studies in this area have tended to suggest that there are wide individual differences in pay decision making (for example, Viswesvaran & Barrick, 1992), even among individuals from the same organization (Sherer et al., 1987). This is an important finding, since rater idiosyncrasies increase the probability that pay-setting processes will be seen as arbitrary or unfair by employees. Moreover, decision maker idiosyncrasies may have the effect of increasing employee dependence on supervisors, since they imply that employees must satisfy particularistic tendencies of supervisors, in addition to more general work expectations. To date, however, the underlying sources of differences in decision maker policies have not been investigated.

Recent psychological evidence with respect to pay discrimination suggests mixed conclusions, depending on whether one relies primarily on inferential or direct studies. Specifically, the inferential studies all suggest gender and/or racial variance in pay outcomes, even after controlling for a wide variety of variables (Brett & Stroh, 1997; Dreher & Ash, 1990; Dreher & Cox, 1996; Gerhart & Rynes, 1991; Lyness and Thompson, 1997), whereas the direct studies of decision processes do not (Mount & Ellis, 1987; Rynes et al., 1989).

It should be noted here that a very sizable number of inferential studies have also been conducted in other literatures, most notably in economics, management, and industrial relations. Their findings are generally consistent with the inferential results reported here (Blau & Ferber, 1998). Regardless of disciplinary training or number of control variables, most researchers continue to find race- and sex-associated differences in pay outcomes. Similarly, recent Census Bureau data continue to show race- and gender-based earnings differentials, although the size of those differentials has declined over time (Vobejda, 1998).

However, it must be kept in mind that discrimination in pay-setting procedures can never be conclusively demonstrated via inferential procedures (see Cain, 1986; Milkovich, 1980). Rather, it is always possible that some unmeasured variable, unrelated to discrimination, accounts for the remainder of the earnings gap. Thus, for example, unequal outcomes from salary negotiations or different types of mentoring may reflect unmeasured characteristics of the employees themselves (as might be suggested by

Stevens et al., 1993), rather than discrimination in pay setting.

In contrast to findings from the inferential studies, the two studies that directly examined the possibility of discrimination in pay setting (Mount & Ellis, 1987; Rynes et al., 1989) showed little evidence of gender-based discrimination. It should be recognized, however, that each of these studies probably presented rather weak tests of discrimination, though for different reasons.

For example, in the Mount and Ellis study, participants had received twenty hours of job evaluation training and had participated in reevaluation of multiple jobs as part of a comparable worth initiative. Thus participants were clearly sensitized to the role of gender in pay setting and probably determined not to exhibit bias in their evaluations.

The weakness of the test for discrimination in Rynes et al. (1989) was of a different nature. By design, participants in that study were unlikely to be sensitized to gender issues, since each participant received either all-male-dominated or all-female-dominated sets of jobs to be evaluated. Although lack of direct (and potentially obvious) cross-gender comparisons is a desirable feature in studies of possible discrimination, it nevertheless reduces the likelihood of finding gender-related effects.

A second feature of this study that may have reduced the role of gender in subjects' decisions was the provision of three clear quantitative bases for establishing pay (current pay, market survey rate, and job evaluation points). Thus Rynes et al. is probably best interpreted as a closely controlled study showing that under certain conditions (for example, with good quantitative information and no direct comparisons of male- and female-dominated jobs), female-dominated jobs are not penalized relative to male-dominated ones. However, the real world of compensation determination rarely presents such a pristine set of decision conditions.

Of the research reviewed, the series of studies by Bartol and Martin (1988, 1989, 1990) and those by Stevens and colleagues (1993; Gist et al., 1991) seem to provide the most promising models for future psychological research on pay determination processes. First, both sets of studies are firmly grounded in theory-the first set in resource dependence theory and the second in self-efficacy and goal-setting theories. Second, both sets of studies pursue broader research agenda, where different aspects of the problem are investigated in a logical sequence across more than one study. Third, both research programs address questions of substantial practical importance: Bartol and Martin investigate how supervisory dependence on subordinates may influence their pay decisions, while the other researchers investigate not only the determinants of suboptimal pay negotiation outcomes but also possible remedies for them.

Limitations Limited Cumulation of Knowledge

As indicated earlier, the dominant preoccupation (to the extent that there has been one) of psychological pay determination research has been the attempt to detect bias or discrimination in pay-setting. Although the individual studies in this area have generally been competently performed, as a whole, this body of work is somewhat disappointing.

First, the overall number of these studies has not been large. Second, the conclusions drawn are inconsistent across the two methodological approaches (inference versus direct estimation). Third, the other variables considered (in addition to race or gender) have varied widely across studies, making overall conclusions difficult to summarize. Finally, the underlying causes of the differentials observed in the inferential studies remain

undiscovered and might conceivably reflect little more than omitted variable bias.

Another difficulty with psychological pay determination research is that most of it has been atheoretical. One reason may be that no dominant paradigm (or set of competing paradigms) has emerged for studying pay determination in the psychological literature. Convergence around a single paradigm (or two) might prove useful for mapping future research directions and culling unproductive ones (see Pfeffer, 1993; Platt, 1984).

Whatever the cause, the scattered nature of the reviewed research has prevented cumulation of knowledge concerning important pay determinants (such as average effect sizes, confidence intervals, and moderators of important effects). In this regard, psychological research on pay determination has fallen far short of developments in many other areas of I/O psychology (for example, mapping the average validities and boundary conditions associated with major selection devices, multirater performance appraisals, or major personality constructs).

Limits to Generalizability

Other features of this literature potentially limit its generalizability to actual pay decisions. For example, most studies have used either student subjects, subjects from a single organization, or samples where respondent and organizational characteristics are confounded by having only one respondent per organization. This last characteristic makes it impossible to disentangle individual from organizational determinants of pay, with the result that presumed individual differences in pay-related decisions (as in Viswesvaran & Barrick, 1992) may in part represent differences in subjects' organizational policies (see, for example, Weber & Rynes, 1991). In addition, the within-subjects policy capturing studies have had very small sample sizes (n = 12-36), further raising the possibility of sampling bias as a source of nongeneralizability.

Finally, and perhaps most important, experimental studies of pay setting may suffer from limited generalizability because making pay decisions about "paper people" is substantially different from making decisions about actual subordinates (for related points in a performance appraisal context, see Latham & Wexley, 1981, and Longenecker, Gioia, & Sims, 1987). Deciding how to allocate resources among paper people removes most (if not all) of the emotional and political elements of decisions making, as well as the visceral awareness of potential long-term consequences of such actions as "punishing" uncooperative employees with low pay. Consequently, laboratory findings in this area may appear considerably more rational or performance-oriented than they actually **are in real organizations.**

Other Issues

To this point, we have discussed the contributions and limitations of psychological pay determination research largely on its own terms. However, it is also useful to consider how this literature relates to a number of features of the current pay environment. In the remainder of this section, we evaluate this literature in relation to three bases of comparison: changes in actual pay practices over the relevant time period (1986-1998), developments in other disciplines, and concerns of compensation practitioners.

Changes in Practice. There have been at least two major changes in actual compensation practices over the reviewed time period. First, there has been a dramatic increase in the diversity of pay strategies and specific compensation practices used by employers (see Chapters Five, Six, and Seven). Changes include increasing diversity with respect to fixed versus variable compensation, individual versus higher-unit compensation, and pay

for the person or pay for skill versus pay for the job.

Despite the clear emergence of these trends in practice, our search uncovered only one I/O study (Collins et al., 1993) that examined the determinants of any of these types of decisions. More generally, top-tier I/O psychology journals have published almost no research over the past decade that seeks to explain changes in "strategic" pay decisions or decisions that lead to alterations of the fundamental compensation "architecture" (see Becker & Gerhart, 1996). Rather, most psychological studies of pay determination processes continue to focus on traditional administrative issues, such as pay for jobs and pay for individuals within jobs. (Studies of the effects of strategic pay decisions are discussed elsewhere in this volume, however.)

A second important trend in actual compensation practice has been the dramatic increase in wage inequality between people at the top of organizational hierarchies and those at the bottom (Bok, 1993; Frank & Cook, 1995; Galbraith, 1998). For example, in 1974, the typical CEO of a large American company earned approximately 35 times what an average factory worker earned. By 1990, that figure had increased to 120 times (Crystal, 1991), and by 1998, to 326 (Reingold, Melcher, & McWilliams, 1998). The trend toward increasing inequality appears to be continuing, with executive pay having risen 35 percent in 1997, compared with 2.6 percent for blue-collar and 3.8 percent for white-collar workers (Reingold et al., 1998).

Despite I/O psychology's clear interest in matters of bias and fairness in pay determination (as witnessed by the large number of studies devoted to questions of gender and racial equity reviewed in this chapter, as well as studies devoted to broader questions of equity and fairness reviewed in Chapter Three), we were unable to find a single study that addressed these broader questions of rising inequality. Although this omission may be due to a lack of awareness on the part of psychologists, it seems difficult to escape knowledge of this trend, given the considerable attention devoted to it in the popular press.

Instead, we suspect that the lack of attention to this issue stems from psychology's tendency to examine decisions involving relatively homogeneous units (for example, single organizations or males versus females in the same organization, on the same job, or from the same graduating class). By confining questions to these closely controlled environments, psychologists have missed broader trends in compensation with potentially huge implications for employee motivation, aspiration levels, psychological well-being, and organizational commitment.

The lack of attention to strategic decision making may also reflect the very small number of psychological studies using top executives as subjects or as objects of study. Whereas psychological research in this area has tended to focus on the decisions of students, low-level managers, or compensation administrators, pay determination studies in management and economics journals have increasingly focused on the decisions of top executives and boards of directors (see the 1992 Administrative Science Quarterly special research issue or the 1998 Academy of Management Journal special research forum). Thus the types of decisions examined are naturally more "strategic" in these literatures.

We see no inherent reason why I/O psychology must continue to focus its interest in compensation decision making only on micro-level decisions (such as starting salaries, job evaluation points, and merit increases). Rather, we believe that psychologists can also apply traditional decision research methods (including policy capturing, process tracing, grounded theory, and ethnography) to more strategic decisions and decision

makers. Developments in Other Disciplines. Compared with I/O psychology, other disciplines (most notably economics and strategic management) have been considerably more interested in questions of pay determination. For example, in the management literature, a review of Administrative Science Quarterly and Academy of Management Journal from 1986 through 1996 turned up fifty-five studies where pay was treated as a dependent variable.

In addition to differences in the quantity of research, there have been major differences in theoretical approach between disciplines. In particular, a dominant theoretical approach-agency theory (Jensen & Meckling, 1976)-has emerged for examining pay determination processes and outcomes in management and economics (see also Chapters Four, Five, and Seven). Generally speaking, agency theory focuses on how to design compensation systems to "align the interests" of employees and owners under various conditions, typically through some form of behavioral monitoring or outcome-based reward system (such as stock ownership, profit sharing, or gainsharing).

Economists have also generated a number of theoretical explanations for increasing pay inequality across occupations and organizational levels. These include tournament theory (Lazear & Rosen, 1981), winner-take-all markets (Frank & Cook, 1995), and macroeconomic and public policy explanations (see Galbraith, 1998).

Although a full review of developments in other disciplines is beyond the boundaries of this chapter, we believe it would be helpful for psychologists to become aware of at least some of these theories and the issues they attempt to address. For example, based on an examination of proxy statements, Zajac and Westphal (1995) found that the rationales used by corporate boards to explain (or perhaps justify) executive compensation decisions have been shifting away from human-resource-based explanations toward agency-based ones. One implication is that at least in the executive compensation area, other disciplines appear to be influencing top-level decision making and decision justification where human resource rationales formerly held sway.

A second reason for becoming more aware of developments from other disciplines is that they raise a variety of interesting psychological questions. For example, the most basic premise of agency theory is that the self-interests of principals (owners or shareholder) and agents (executives, managers, and employees) at least partially diverge, such that agents may not always act in the owners' best interests. On the basis of this insight, economists and game theorists have turned their attention to the interrelated roles of competition and cooperation in situations where the parties are partly competitive and partly interdependent (see, for example, Brandenburger & Nalebuff, 1996; Murnighan, 1994). Their investigations have addressed a variety of psychological processes, such as the effects of opening moves, "cheap talk," reciprocation versus retaliation, and cooperative versus competitive language and behaviors.

We view it as a positive development that other disciplines are increasingly interested in the types of issues that psychologists have long considered important. At the same time, however, we wish psychologists themselves were doing more compensation research in these areas. Practitioner Concerns. To compare psychological pay determination research with issues of concern to compensation practitioners, we reviewed five years' worth (1992-1997) of articles appearing in the American Compensation Association Journal and Compensation and Benefits Review. This review yielded a total of 207 articles.

Of the 207 articles, nearly half (n = 98) pertained to issues related to employee benefits. This presents a clear contrast to I/O research, where benefits have played a distinctly minor role (Barber, Dunham, & Formisano, 1992). Reading between the lines, the

dominance of this concern for practitioners arises from the enormous costs and uncertain returns associated with employee benefits.

Most of the remainder of the articles were devoted to recent trends in compensation practices: 25 articles on team-based pay, 23 on linking pay to business strategy or culture, 17 on the changing role of the human resource department in compensation decisions, 16 on pay in a global environment, 16 on skill- or competency-based pay, 11 on broadbanding, 11 on implications of the "end of the job" (Bridges, 1994) for compensation administration, and 6 on employee participation in compensation design. Again, there has been almost no I/O research examining the precipitating factors and decision processes that have led to these changes.

In sum, when the present body of research is evaluated in light of the broader environment, it becomes clear that I/O research has not kept pace with changes in real-world pay systems, with developments in other disciplines, or with the concerns of practitioners. Rather, I/O has been concerned primarily with issues of bias and discrimination in pay setting, harking back to the early days of Title VII and comparable worth. Although these are still worthy issues, psychologists must also move in new directions if they hope to influence future compensation policy and practice. We turn now to suggestions for revitalizing psychological pay determination research.

Suggestions for Future Research

The other chapters in this volume make it abundantly clear that differences in pay practices are associated with differences in attitudinal, behavioral, and performance outcomes at multiple organizational levels. In a world of increasing competition, then, one would expect that executives would design pay practices to be consistent with empirical results concerning pay outcomes. And yet, as with other areas of human resource management (see Johns, 1993; Terpstra & Rozell, 1993), many organizations have not have adopted the types of pay practices that appear to be associated with higher firm performance, such as paying most or all employees at least in part on the basis of firm performance or minimizing differences in rules for pay allocation between executives and other employees (see Pfeffer, 1993; Reichheld, 1996).

The failure of many organizations to follow what would appear to be best practices in compensation raises a number of questions about how pay decisions are actually made. For example, do pay practices diverge from research findings because executives are not aware of existing research or because they do not believe its results? Alternatively, do executives know and believe pay research but feel administratively constrained from implementing its recommendations (see Jacobs, 1991; Johns, 1993; Pfeffer, 1998)? Or does the divergence between research and practice suggest that executives are more intent on serving their own personal interests than on serving the interests of the organizations they manage?

Existing research provides little in the way of answers to these questions. The only way for future research to become more helpful in this regard is to pursue new directions.

One of the most significant changes psychologists could make in pay determination research would be to turn at least some of their attention to pay decisions that are more strategic. These might include decisions about the balance between individual and group rewards; about earnings differentials between the top and bottom of organizations; about the percentage of employees eligible for stock grants, options, or profit sharing; or the number of separate pay systems in an organization.

Moving toward examination of strategic pay decisions will probably require a number of innovations relative to recent I/O pay determination research. For example, although there is nothing to prevent using policy capturing or other experimental designs to examine strategic pay decisions in much the same way as they have been used in the past, we believe that at some point, investigation of strategic decisions must move to the field if it is to be credible. In addition, it must begin to examine the decision processes of individuals who are truly in charge of human resource strategies. This will pose a number of challenges.

One of the biggest challenges will be in gaining access-first to top decision makers and then to their strategic decision processes. One of the most promising avenues for obtaining access (as exemplified by Collins et al., 1993, and O'Reilly, Main, & Crystal, 1988) may be to partner with consulting firms that observe and influence the decision processes of multiple organizations. Alternatively, researchers might create alliances with research consortia such as the Mayflower Group, the Kaufmann Foundation, or the Center for Effective Organizations.

Two particularly promising points for examining strategic pay decisions are during organizational start-ups and at points of strategic change. At both start-up and change points, managers are making nonroutine rather than automated or scripted decisions. As a result, much can be learned about how strategic compensation issues come to the attention of top decision makers (Dutton & Ashford, 1993), how decision makers search for information relevant to a solution (Daft, 1988; Nutt, 1998), and why particular options are accepted or rejected (cost, acceptability to various constituents, and so on).

Another approach would be to study the factors associated with early versus late adopters of strategic innovations in compensation (see Abrahamson, 1991; Gerhart, Trevor, & Graham, 1996; Johns, 1993; Tolbert & Zucker, 1996). Differential adoption patterns may reflect differing characteristics of top executives (such as values or mental models of motivation), industry or firm characteristics (composition of the board of directors, current financial performance, industry dynamism), or some combination of these.

A second important type of contribution psychologists could make would be to illuminate the nature of the decision processes inside the "black box" between environmental conditions and organizational pay practices. Although there have been many cross-sectional empirical investigations suggesting linkages between environmental conditions and compensation strategy (for example, Hitt, Hoskisson, Johnson, & Moesel, 1996), there is nevertheless considerable variance in the strategies adopted by organizations confronting the same general environment (see Miles & Snow, 1984; Reichheld, 1996; Sherer, 1995; Sherer, Rogovsky, & Wright, 1998). To date, however, only a few studies (in any discipline) have come close to examining the mechanisms by which environmental influences are or are not converted into strategic decisions (for partial exceptions, see O'Reilly et al., 1988, or Petty, Singleton, & Connell, 1992). Explicit process investigations of change dynamics may also help illuminate the extent to which efficiency, administrative, or symbolic considerations enter into decisions to pursue compensation innovations (see Abrahamson, 1991; Di Maggio & Powell, 1983; Johns, 1993; Tolbert & Zucker, 1996).

A third area of research well suited to psychological investigation would be to examine managers' mental models of the purposes and effects of compensation for various groups of employees. For example, CEOs almost certainly differ in the extent to which they believe in the efficacy of alternative motivators such as fear, praise and recognition, money, meaningful work, a sense of belonging, or a desire to contribute to customers or society. In addition, they differ in the extent to which they believe in the efficacy of

cooperation versus competition or of wide versus narrow pay differentials across organizational levels. There may also be important differences in executives' mental models of how pay works among executives, as opposed to how it works among production workers.

To date, however, there has been little research to ascertain the prevalence, origins, or malleability of various motivational beliefs among executives. However, this type of research could be important, since anecdotal evidence suggests that unique pay strategies often emerge precisely from CEOs' beliefs, values, and vision for the organization (see Olian & Rynes, 1992; Reichheld, 1996). Moreover, recent research suggests that some of the most successful HR strategies may be those that go against the general trends in their industry (see Pfeffer, 1998; Reichheld, 1996; Sherer, 1995). It might therefore prove enlightening to examine the sources of such successful leader insights or inspirations.

A final direction we might suggest would be for investigators to embed pay determination research more explicitly in a social context. For example, descriptions of how executive compensation decisions are actually made have emphasized the "clubby" atmosphere inside socially interlocked boards of directors who as a group have considerable personal stakes in seeing executive compensation rise (Crystal, 1991). Thus, for example, sociologically based management research has demonstrated that an executive's compensation is associated with personal power and social influence (for example, extent of stock ownership in the company, power over board appointees), as well as the executive's demographic similarity to other board members (see O'Reilly et al., 1988; Lambert, Larcker, & Weigelt, 1993). Additional research of this type could fruitfully be pursued by psychologists, considering that questions of power, influence, and peer evaluation fall easily within the domains of social, cognitive, and I/O psychology.

In summary, there are many important issues in pay determination that would benefit from a revitalization of psychological compensation research, as well as from cooperative ventures between psychological researchers and consulting firms, research consortia, and researchers from other disciplines. We hope that a review of the next decade's compensation research will reveal an expansion of psychological interest in the determinants of compensation strategies for individuals, groups, and organizations.

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